

GEORGE W. YORK, Editor.

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CONTRIBUTED ARTICLES

Apiary of Mr. S. T. Pettit, of Ontario, Canada.

BY A REPORTER FOR THE FARMER'S ADVOCATE.

THE illustration on this page represents Mr. S. T. Pettit's bee-yard, in Elgin county, Ont., as it appeared on Aug. 9, the day of our visit. The hives are not all shown, as the camera could not be situated so as to take in the whole yard to good advantage. Enough is shown, however, to indicate the general order of the yard, the honey-house and the work-shop where hives, supplies, etc., are

swarms per colony this year than in any year since 1895, which is accounted for by the unfavorable weather, especially during the clover bloom.

His entire honey crop from the 80 colonies, spring count, is about 5,000 pounds, 800 of which is comb honey. As there has been no honey coming in since the middle of July, the chances are the colonies will all require to be fed before winter. As will be noticed, the hives appear with extracting-supers, which are divided from the brood-chamber with queen-bars or queen-excluders.

The building to the right in the background is the honey-house, where extracting, etc., is done, and honey is stored until shipt. The other building is a work-shop, where Mr. Pettit makes all his hives and parts. Beneath this building is a stone cellar, where the bees are wintered. It is kept dark, well ventilated, and at a uniform temperature. The ventilating system is of Mr. Pettit's own invention, and is very unique. At the center of the end of the building facing the bee-yard is an outside stairway leading to the cellar-door. The door fits tightly, but has a number



Apiary of Mr. S. T. Pettit, of Elgin Co., Ont., Canada.—(From the Farmer's Advocate.)

made. In round numbers the yard contains 100 colonies, being an increase of 20 since they were brought out of the cellar in spring.

Mr. Pettit makes a specialty of comb honey, and his bee-yard would look more natural showing the hives with comb-honey supers, but these were all removed at the end of the honey-flow about the middle of July. In fact, comparatively little comb honey was produced this season, owing to the paucity of new swarms, which Mr. Pettit uses for comb-honey production. Mr. Pettit received less new

of 2-inch holes covered with wire-screen. Covering the stairs on a level with the ground is a pair of doors which lie flat when closed, and it is thru one of these that the ventilator is placed. It consists of an 8x8 inch square box 20 inches long. This fits perpendicularly in the door, and has a slide passing thru it, which can be opened or closed, as appears necessary by the temperature of the cellar. The top end is covered with wire-screen. Now, in order to exclude the light, an inverted box rests loosely on the top, and at the bottom end a similar box hangs bottom down. Both

boxes are about three inches larger than the ventilator, which they telescope about two inches each. A similar ventilator is provided for each of the two windows, so that a free circulation of air is admitted without the possibility of light entering the cellar. The temperature of the cellar is held at from 40 to 42 degrees, which prevents breeding, and holds the consumption of honey down to a minimum, and at the same time retains the vitality of the bees to the greatest possible degree.

The yard was to remain as it appears in the engraving until about Sept. 20, when the extracting-supers are to be removed, the hives weighed, and the bees fed where necessary. Each hive should contain about 30 pounds to commence the winter. About Nov. 17 the bees will be transferred to the cellar, where they will remain till the time arrives to set them out in the spring.

We would draw attention to the proprietor of the apiary sitting in the shade of the tree in the foreground. He is wearing his bee-veil attached to the rim of a straw hat, drawn tightly from the rim and tucked under his braces and drawn tightly across the breast, which holds the veil away from the face and neck, thus making a sting in those regions impossible. After the photograph was taken, Mr. Pettit recognized that his trouser legs should have been tucked inside his socks, that he would appear like a bee-keeper at his work. When the trousers are thus tucked in the bees cannot walk up inside to create trouble for themselves and the individual wearing the trousers. We would also point out the solar wax-extractor sitting in the foreground, near the clump of flowering shrub. It is set on a pivot, on which it can be revolved to face the sun throughout the day.

A COMB-HONEY HIVE AND ITS ARRANGEMENT.

By following the description of Mr. Pettit's hive, some important points in his system of comb-honey production will be understood.

1 represents the cover, beneath which is a cushion 2 inches thick, of soft, fine hay, and beneath this is a cotton-cloth, of hard, white cotton-duck, which rests on the sections.

2-2 are section supers, one-quarter inch deeper than the sections used. Mr. Pettit's are 17½ inches square, inside measurement, each holding 36 sections.

3, queen bar or excluder, which covers the brood-chamber, admitting only worker-bees to the supers.

4, brood-chamber.

5, wedges of wood one inch deep in front, gradually tapering to a point at the back. These are used in summer



Pettit Comb-Honey Hive and Arrangement.

to allow ventilation, and they also raise the front of the hive so as to induce the bees to go up the side-walls of the hive and the brood-combs near the back of the hive.

6, floor projects 3½ inches in front of the brood-chamber.

7-7, stand of two 6-inch boards and two 7-inch. This rests on bricks, as shown.

8, comb-honey supers, same as 2.

9-9, divider set on two of the sides of the super, as shown in position. It is ½-inch thick, and has ¾-inch holes, thru which the bees pass to the sections.

10, section in position, resting on T tins 12, and against a divider. The section is filled with light foundation of good quality, within 3/16 inch of the bottom. With sec-

tions fitted with foundation in this way the bees fill them evenly.

11, bee-space of 5/16 inch, created by six blocks numbered 13 on divider number 9. The advantage of this extra bee-space at the sides of the super is to allow for a double quantity of bees to keep up necessary animal heat, which is advantageous to the finishing up and capping the combs in the sections.



The Indoor Wintering of Bees.

BY C. P. DADANT.

PLEASE allow a stranger to ask your opinion or advice in relation to a wintering place or house for my bees. I have in mind to build a house with double walls, 6, 8 or 10 inches between the outside siding and inside ceiling, and fill the space with dry sawdust, have a double floor filled in the same way. Seven feet between lower and upper floors. I can carpet or cover the upper floor with sawdust. I will be very glad to have your opinion in the matter. Also, how much space does it require to place 75 to 100 hives with bees, and the best and most proper way to ventilate the room? Any suggestions will be thankfully received.

Yours truly,

R. R. JACKSON, Allamakee Co., Iowa.

We have often heard of bee-houses being used similar to the one mentioned in the above enquiry, but have never seen or tried them ourselves. Any repository in which the bees may be kept at an even temperature slightly above the freezing-point may be considered as a safe place to keep bees over winter if the place is also dry and quiet, tho the latter consideration is of less importance, as it is evident that bees do get used to noise and the trepidation which is common in noisy sports.

The question of proper temperature is by far the most important in this connection. It often happens that misinformed people try to winter their bees in empty rooms where the changes of temperature, altho less sudden and extreme than out-of-doors, are still quite great. These attempts have almost invariably proven failures. This is very easily explained. When the temperature is low, say below the freezing-point, the bees have to consume a quantity of honey proportionate to the rigor of the weather, in order to keep up the bodily heat, which, in a healthy colony should never get below the temperature of the blood. This consumption of stores necessarily causes their bowels to become more or less distended with fecal matter according to the quality of the food—less if the food be of best quality, more if of dark honey or honey loaded with pollen.

In a natural outdoor wintering the bees will, at the first warm day, have the necessary opportunity to unload their bowels, but if they are confined in a room they will become restless and will suffer, and eventually die. On the other hand, in the same repository, when the temperature is higher than necessary, they feel the natural instinct to take flight and also become restless. They often try to rear brood, and this adds the necessity of securing water, which adds to their discomfort when in confinement.

If one had but two or three colonies and plenty of leisure, and was so interested in the bees that he would be sure not to forget them, they might be confined in any dark room, so it was sufficiently sheltered, and take them out on warm days. This would of course be much better than outdoor wintering, but it is not possible with a large number of colonies, owing to the work it would entail, and the fact that some winter days are warm for a few short hours only, so the colonies that were taken out last, out of a lot of 75, might not have a fair opportunity to take flight.

In years past we were in the habit of wintering two of our apiaries indoors; in our home we have a portion of our cellar partitioned off from the main part purposely for the bees. We have not used it of late because the winters have not proven injurious. When our bees were in the cellar, my father, who has a great taste for experiments, used to go to the bees several times in the week, and at different hours, to ascertain their condition. He invariably found that they were quiet at a temperature between 40 and 45 degrees, Fahr. Below this point they would show by their hum that a little warmth was needed. Above it they were also restless, and an occasional bee would stray out of its hive and fly up to the light brought in.

I remember that an old York State bee-keeper had publicly stated that the bees could stand a very high temperature when in the cellar, provided the moisture in the air of the cellar was adequate to the rise in temperature. This he so strenuously maintained in public arguments that I took pains to interview him at a convention, and found out, to my great surprise, that he had no thermometer in his cellar, and was only "guessing" at the temperature mentioned by him.

A thermometer costs but a trifle—from 25 to 40 cents—

and I strongly urge all who wish to winter their bees in a repository to place one of these instruments in the room.

It matters but little whether the room used is above or below the surface of the ground, if the temperature may be retained at the point I have mentioned. But it seems to me much more difficult to retain sufficient heat for the purpose in a room above ground, even in a repository lined with sawdust in a climate like that of northern Iowa. In a very hard winter, unless the room contains enough bees to keep up the heat inside, we all know that the cold will, after awhile, penetrate a very thick lining of non-conducting material. How nearly the temperature may be kept to the proper degree cannot be assured except by such as have tried it.

But to my mind, in a hilly country, it would be cheaper and much safer to make the repository partly, if not altogether, in the ground. The natural temperature of cellars is higher than that required by the bees, and it is much easier to bring in cold air than warm air, unless we fuss with a stove, which would lead to trouble without end. So very probably a cellar would be best.

I have in mind a cave owned by Mr. Parent, of Benton Co., Minn., which seems to me to be about as cheap a building as may be had. I understand that in those cold regions there is but little to fear from dampness during the winter, because the ground being frozen to a great depth there is no possible chance for surface water to infiltrate. Thus they are perfectly safe from a danger against which we must carefully guard in our latitude.

The cave is dug in a gentle slope, closed with a double door, with a good bed of straw between the doors. Its walls and roof are entirely of ground boarded up, and the beehouse is placed above it. This kind of a repository is certainly better than a house-cellar, which is often enough out of the ground to become very cold, and in which one places all sorts of vegetables that are apt to more or less vitiate the air. The bee-cave is made only for the bees, and they are there in perfect quiet.

In another article I will consider the questions of ventilation, of the space required, and of the time most suitable for the removal of the bees to the repository.

Hancock Co., Ill.



Density of Nectar in Flower-Cups.

BY A. NORTON.

IN my first remarks upon this subject I did not mention Mr. A. J. Bates by name, partly to avoid offense by antagonizing him personally. And I would not further mention the subject, or him personally, but that his reply on pages 515-16 contains so many mistakes, as it seems to my humble judgment, and that he has brought out the personal feature so as to make it no object to avoid it.

If Mr. Bates will permit me I will call his attention, in a fraternal spirit, to some errors of statement of his in said reply. His first statement I do not really grasp as to whether he deals with ripe honey absorbing moisture in the comb or with thin honey parting with moisture, the thin part being drawn to the mouth of the cell. I think he overlooks the fact that (whichever way he means) the honey would never ripen or become entirely thin if the thinner parts did not take from that which is thicker. And the rapidity of the ripening of honey comes from the great readiness with which this is done.

The thick honey in the cell would stay thick with a thin surface, or the thin honey would remain thin with a thick surface (not being at the top exactly, but on one side, from its position in the comb), but that, as soon as one part becomes different from the rest, the thicker part is quickly made into the same consistency as that of the thinner part by the absorption of part of its sweetness.

Mr. Bates is mistaken in his second statement, for the earth and most objects upon it give off heat faster than does the air. Hence the air, where it comes in contact with cooler objects than itself, has its vapor condensed into dew. Dew would never form by contact of air with objects warmer than itself, as he states on page 516. From my remembrance of the structure of red clover blossoms with their slender, partly-closed tubes, the dew would not form within them, since dew does not "fall," as so many use the term; and it would probably not get into the nectaries unless it formed so plentifully over the heads as to flow over into the tubes of the flowers. Rain might beat in and wash the nectar out; but that is a different consideration.

I think the reason why the Italians work more freely on the red clover in the morning is that the flowers have

been secreting nectar all night with nothing to deplete it, while the morning's work leaves the flowers more or less destitute, so that bees forsake them. If any outside moisture happens to have gotten into the flowers, it will have taken up the same kind of sweetening as that they hold, and will doubtless be of the same thickness as the rest of the contents. Even before it has become equally thick, it is equally good, needing only more evaporation, and involving difference of quantity, not quality.

Soon after reading Mr. Bates' reply, I took a small drop of honey to represent specially thick nectar, a small bit of candied honey to represent still more fully evaporated nectar, and a little sugar to represent that entirely dried down. Upon these separately I placed small drops of water no larger than the amounts of sweetening, just laying the water carefully on top with no stirring. In a less time than dew remains on flowers after it forms, these were all of evenly uniform density, with no layers that were to be detected by examination. Should thin nectar dry gradually, it would thicken uniformly unless the waxy nature of the thick product should cause a thick film to adhere at the sides or edges, and thus be held at the top instead of on the bottom of the thinner portion.

Regarding Mr. Bates' last statement, I will only say that I have made mortar in my day and am familiar with it, and that it is not lime in a state of suspension in water, but water in a state of absorption in lime, and that it has no illustrative bearing on the subject.

I don't wish to make this subject seem too important and so I will imitate Mr. Bevens by crawling back into my hole; and I promise not to speak up again, and to cheerfully give Mr. Bates, "Cogitator," or both, the right to have the last word if they desire it.

Monterey Co., Calif.

[We think this subject has been sufficiently exhausted now, so we let the above conclude the discussion.—EDITOR.]



The Dzierzon Non-Sperm Theory a Fallacy.

BY C. THEILMANN.

IN "Beedom Boiled Down," on page 538, we find the following: "The Dzierzon theory, says Deutsche Illustrierte Bienenzeitung, so far stands as solid as a rock, and it will require more proofs than have yet been brought against it, to budge it in the least."

This will probably be the last kick the Dzierzon non-sperm in drone-eggs will make, as many bee-keepers will (according to Mr. Hasty's afterthought, on page 566) try the experiments set forth by Prof. Dickel, and the formula recommended by myself. All who will try it will most surely be "comrades," as Mr. Hasty suggests.

For myself, with the experiments I had in 1883 with a swarm, and again with five swarms the past July, I have gained indisputable facts of the fallacy of the Dzierzon theory. My formula is so simple and easily performed (see page 500) that almost any bee-keeper can try it and satisfy himself of its correctness, that bees can and will produce either sex from eggs laid in worker-cells by a normal queen.

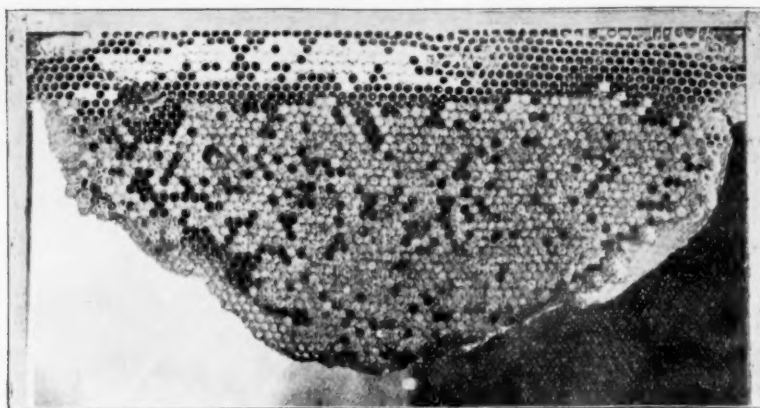
I will give the readers of the American Bee Journal the experiments I made the past summer with five swarms, to make sure of what I experienced heretofore.

On July 9 I prepared two swarms for stock colonies, with starters in frames. July 11 a frame of the above was taken and given to a swarm just issued and made queenless, and put on the old stand after the old hive was removed where they came from. The frame was partly stocked with eggs in worker cells. The same evening the hive was removed to another stand, but the bees made a big commotion on account of dissatisfaction, and some deserted the hive, but when put back to their old stand they quieted down and seemed to be satisfied.

On examination, on the 19th, the frame was destitute of eggs or larvæ; and another frame with eggs was given immediately; on July 24 four queen-cells and two drones in worker-cells were nearly completed, also about 300 workers. On this day laying-workers had already started laying—I counted nine eggs in a newly-started queen-cell.

No. 2 swarmed July 11, and was treated the same, with a frame of worker-cells stocked with eggs; examined on the 24th there were found nine queens, ten drones, and two worker-cells, all capt. This swarm also changed stands like the first.

No. 3 swarmed July 13, and treated the same as No. 2.



I found 14 queens, 6 drones, and 300 to 400 worker-cells, all capt on the 24th.

No. 4 swarmed July 13; a frame of all-worker-cells with eggs was given, and on the 24th I found 22 queens, 20 drones, and probably 2,500 worker-pupae all sealed and capt.

No. 5 swarmed July 14, and was treated as those above, and I found 28 queens, 10 drones, and 800 to 900 worker-pupae, all capt on the 24th. There were no drone-cells on any of the frames that were given to the swarms.

I would say here that the caged queen should be taken from the swarm as soon as all the bees have come back to their old stand and new hive. The hive should not be moved to another stand, as you will notice by my experiments of swarms Nos. 1 and 2. None except the first had any laying-workers before they had laying-queens.

I photograph a frame from No. 4, 11 days after it was given to the swarm. I had to take it 10 miles on a very rough road, and it was broken from the frame and somewhat mutilated. We could get only the view of one side. After I got home I gave it to the swarm again, but it took from two to four days longer than the usual time for the young bees to hatch out.

I send the photograph to the editor of the American Bee Journal, and hope he will publish it. I also hope that many bee-keepers will try the experiment next year, and be convinced.

Wabasha Co., Minn.



Introducing Queens—More Explicit Directions.

BY EDWIN BEVINS.

I HAVE received the following letter asking for more information about my method of introducing queens:

On page 547, Mr. Edwin Bevins tells how to introduce queens. Now he of course means well, intending to assist the beginner, but how does he presume a greenhorn will proceed under his directions? He does not say where to put the queen.

Two neighbors of mine are trying his method; one has put the queen alone in the cage between the two hives, and one has placed her with her retinue on the comb above the cage. Will Mr. Bevins please tell us thru the American Bee Journal just how he does it? H. M. JAMESON, Riverside Co., Calif.

No wonder Mr. Jameson asks for more light. I was very much surprised and chagrined at the way the method appeared in print on page 547 of the American Bee Journal. I intended to send a correction sooner, but was prevented by an illness that took me away to a health resort. Whether I omitted to write fully, or whether the editor omitted to print as I wrote, I am unable to say. Anyhow, I will give the method as I have practiced it, and always with success. [We printed it exactly as Mr. Bevins had written.—EDITOR.]

When I have a queenless colony, and the weather is warm enough so that hatching brood in an upper story will not be chilled, I send for a queen, and when she arrives I hunt for two frames having hatching brood and some honey. These frames I place over the queenless bees in an upper story above the frame of wire-cloth. The frames are put close to one side of the hive. Then I put the cover on so as to be over the frames and yet leave a space open on the opposite side of the hive large enough to admit my hands. Then I remove the tacks that hold the wire covering to the cage at the end opposite the candy, and with the thumb of the left hand I hold the wire-cloth of the cage in place until I can place the cage right down on the wire-cloth of the frame close to the lower edge of one of the frames of brood. Then with the fingers of the right hand I turn up the loosened end of the cage-cover, and the queen

and accompanying bees will climb right up on to the combs. Then I put the hive-cover in place and go about my business.

If bees are hatching rapidly I do not leave the frame of wire-cloth between the two hives more than from 24 to 48 hours. If there should not be a goodly number of bees hatcht in that time I would leave it longer as a matter of precaution, altho I by no means regard it as a necessity.

Any one can easily see that the above is only a roomy way of caging the queen so near the bees she is intended to serve that when they are admitted to her presence she is regarded as one of the family. The presence of the just-hatcht bees and the remaining brood and the honey help to heighten the illusion, if illusion it is.

It may not be necessary, but I will say further that the frame between the two hives should have wire-cloth nailed to both sides of it, and that there should be no opening thru which a bee can by any possibility get below, or get outside, until released by the removal of the frame. Decatur Co., Iowa.

CONVENTION PROCEEDINGS

Report of the Central Texas Bee-Keepers' Convention, Held at Milano, July 20-21, 1899.

BY LOUIS SCHOLL, SEC.

[Continued from page 630.]

UNITING AND DIVIDING COLONIES.

When H. H. Hyde unites colonies, he destroys the queen of one colony two days previous, then puts most of the brood in the lower chamber of one, and sets the other body on top, using tobacco-smoke on the bees. In dividing he buys new queens, but prefers to rear them for the new division; he divides equally and removes the half with the old queen to a new location.

Judge Terral does not look for the queen, but divides equally and puts one in a new location.

WORKING UP A HOME MARKET FOR HONEY.

O. P. Hyde did not have much experience, as he ships most of his honey. He peddled some around put up in Mason jars.

Judge Terral peddles it around, and lets people know he has honey to sell. They know him as the "bee-man." He advises working up a reputation and teaching and educating the people about honey. He does not advise to sell a large quantity to a family at one time, as they generally eat too much at first and then tire of honey. He said to put it up in small packages was expensive. He weighs it out into the buyer's bucket.

Mr. Guess has also had trouble by selling too much at a time, even 50 pounds at once; while Messrs. Jones, Hyde, Davidson and others accommodate their customers with as much as they ask for. They have sold a whole barrel to a family at a time, and had no trouble. People know what honey is, and buy some from them every year.

Mr. Aten ships honey by the carload to Northern markets. He has drummers along the road who sell by sample.

STARTING IN THE BEE-BUSINESS.

Mr. Salyer advises beginners to start on a small scale with few colonies, study their habits, and read the best literature. Visit and stay with a practical apiarist, also attend bee-keepers' conventions. One year he fed his bees early to stimulate brood-rearing, and stopt in April; he lost 30 colonies by starvation, as he reared bees out of season. He used to put new supers above the full ones instead of under, when giving bees more room, and other such like things.

A good many discuss this subject. Some advised to stay with a practical apiarist first, while others advised studying bee-books and papers first. After a long discussion, and hearing the opinions of each, it was at last decided that it

was best to combine all—practice, staying with practical apiarist, and reading books and papers.

BEE-KEEPING COMPARED WITH OTHER PURSUITS.

"Is bee-keeping more profitable in comparison with other pursuits?"

Mr. Salyer said there was more money in bees for the capital invested, altho he could make money at other pursuits.

O. P. Hyde gave some of his experience. He made more money out of bees. He bought a lot of bees for \$175, and received \$700 worth of honey from that lot the first year, besides 50 colonies of increase.

Judge Terral said it was not advisable for beginners to invest much in bees at once, but best for them to start with very few colonies, and start cheaply by beginning with swarms or bee-trees.

Mr. Davenport and others prefer to have other pursuits combined with bee-keeping.

Pres. Jones says that it will pay an experienced person to buy up several hundred colonies at once, but with the inexperienced it will not do.

BEST WAY TO REAR QUEENS.

"What is the most profitable way to rear queens?"

Mr. Davidson has reared queens by many methods, and has made failures. He uses a modification of Alley's method, which is different from Doolittle's, with which he did not succeed. Place an empty comb in the breeder's hive, and in 3½ days eggs will be hatcht into larvæ. Then deprive one or two colonies of their queens and brood. Don't leave any brood, and make nuclei with the queens. Leave these colonies queenless over night, and early the next morning get the comb with larvæ, cut it into strips of one row of cells, destroy every other larva, then dip the other side into melted beeswax, and attach it to the bottom edge of the comb which has been cut out to give it a rounding bottom. After leaving the cells in these hives for 24 hours, remove them to the top story of strong colonies, with a comb of unsealed brood on each side, which brings up nurse-bees to complete the cells. Make nuclei a day before the cells hatch, and move the cells into strong nuclei when ready. Close the entrance or the bees will go back. He believes dipping cells is all nonsense, and will cause two failures to his one.

H. H. Hyde askt, Why not give two batches of cells?

Mr. Davidson—The royal jelly will be exhausted.

Mr. Davenport waits for colonies to start cells, then removes the larvæ, and puts in larvæ from his breeder.

Mr. Atchley says their plans of rearing cells is all right. He spoke on the Doolittle and Alley plans, also other methods, and cautioned queen-breeders not to go too far, and not to tear their colonies all to pieces making nuclei out of them, as that is dangerous. Have only one nucleus to each colony. Always have plenty of strong colonies to back you, or you will soon be ruined, so don't make this mistake.

Judge Terral and Pres. Jones endorsed strongly what Mr. Atchley said. A queen-breeder has just so far to go, and if he leans over just a little when the demand exceeds his supply, he will generally proceed too far, and is sure to go down. Mr. Atchley is right about having large colonies to back you; have only one nucleus to each, and if you get a dollar out of it, it is just as good as found, as the strong colony is still there tending to its business. This venturing too far has ruined many a queen-breeder, as by tearing his whole apiary to pieces he was left without any bees and no strong colonies to back him.

Mr. Davidson also spoke on this, and before venturing too far he returned the money if unable to fill the orders.

Mr. Atchley objects to both going too far or returning the money. Have plenty of colonies to back you.

SECOND DAY—AFTERNOON SESSION.

BEST WAY TO REAR BEST QUEENS.

Mr. Atchley gets good queens out of cells from natural swarm cells as any other method. Select all the good cells, and destroy all bad ones. Large colonies are not really necessary to rear good queens. He reared some of his best queens in a little after-swarm. Always attend closely to business.

Pres. Jones prefers a strong colony in a cool spring, also later in the season, as it can use a larger lot of cells. Strong colonies are always essential, and none too good at any time. Select good cells. He tried almost all methods to rear queens, and prefers Doolittle's cups, also Pridgen's

method of rearing good queens. Have colonies in good condition with bees of the right age, and plenty of nurse-bees. Budded cell-cups in the upper story of a strong colony with moderate or good honey-flow gave good results. He has had queens mated and laying in upper stories without running down his old colonies. It is a hard matter to have cells built in upper stories when conditions are not right, and no honey coming in. He can tell bad and defective cells on the third day, and selects his cells for good queens.

BUYING GOOD QUEENS.

"Can the honey-producer afford to buy good queens rather than use the ordinary or poor ones he may have?"

It was agreed upon by nearly all to buy good queens if the bee-keeper has no means to rear good ones. He will be greatly the looser if keeping poor queens, and can't afford to tolerate them.

The following resolution was read and adopted:

Resolved, That we, the Central Texas Bee-Keepers' Association, in session assembled, do hereby extend Mr. and Mrs. E. R. Jones, and the good people of the city, our sincere and heartfelt thanks for the hospitable way they have entertained us during our stay in their city; and that this resolution be incorporated in our minutes.

COLOR OF HONEY AND COLOR OF COMB.

"Does the color of the honey gathered have anything to do with the color of the comb?"

All said yes.

Pres. Jones related a case of last spring when bees gathered the darkest kind of honey, almost black, and yet the comb was very white. It was honey-dew.

Mr. Aten said it was not honey, then. It was "bug-juice," and the bees did not make the white comb from it.

"Is it a fact that queens reared from older larvæ will hatch later than queens from one-day-old larvæ?" They hatch first before the time of hatching good queens.

PREVENTION OF SWARMING.

"What is the best method to prevent swarming?"

Provide plenty of room; give third and fourth super if necessary. Can't prevent swarming after the bees get the swarming-fever.

Mr. Brown said: Room, shade, and ventilation.

Pres. Jones runs more closely for comb honey, which taught him that plenty of room for the queen and also in supers is best. Use a young queen; no other when producing comb honey.

BEEES FOLLOWING THE APIARIST AROUND.

"How can you find colonies of bees whose workers follow one around in the apiary?"

H. H. Hyde watcht the kind of workers and found their colony, dequeened it, and the trouble stopt.

Mr. Aten and others kill them, as they are only a few bees from certain colonies.

BROOD-NEST BEFORE THE HONEY-FLOW.

"How would you prepare the brood-nest just previous to honey-flow for extracted honey in Jamaica?"

Mr. Aten has prolific queens: lets them lay in all stories to have lots of hatching bees just previous to the flow, and the bees fill all cells with honey in upper stories, out of which the young bees hatch.

O. P. Hyde—Strong colonies and good, prolific queens. Study your locality and know just when the flow starts. Have plenty of hatching bees just before the flow, and let the queen use all the stories. No queen-excluders. Bees fill every cell in the upper stories as soon as the bees hatch out, and crowd the queen down.

Mr. Atchley endorses the above plans. Plenty of empty combs on hand is as good as money in the bank.

SWEET CLOVER—ITS VALUE, ETC.

A question was askt in regard to sweet clover, its value, etc.

Mr. Davenport gave quite a lengthy talk on this subject. Sow in the fall, in September, on unbroken ground. It grows and sprouts out well. Next September sow another seeding on same ground, to give a good stand. It has a tall growth, and stock like it. It requires about 15 pounds at each seeding; on good land about 10 pounds. It blooms very profusely, and a good honey-flow from it lasts from May 10 until frost. It is easily killed out by plowing. After being cut it runs out suckers and blooms again until

fall. It has somewhat peculiar roots of a knotty character, resembling—well the following will explain itself:

One day Mr. Davenport happened to see some travelers stopping near his sweet clover field, and a man digging at some of the bunches. On turning around he said, "They are very deep."

Mr. Davenport was surprised, and so he asked, "What?" "Why those goober-peas," was the reply.

So it will be seen that, as that man was from Georgia where he knew all about 'em, sweet clover roots resembled his peas.

This being the last subject on the program the convention adjourned to meet next year at Hutto, Williamson county.

The apiarian exhibit in connection with the meeting comprised some very useful implements, and fine samples of honey and wax.

The list showed 3,524 colonies represented by the members present.

LOUIS SCHOLL, Sec.-Treas.



CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

(The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.)

Carrying Out Dead Bees.

What ails my bees? About a month ago I noticed bees carrying out what lookt like white wings. Now early in the morning I notice, from six hives, the bees carrying out white dead bees, and even some small live ones with a sort of white film about the body. OHIO.

ANSWER.—It may be that all the young bees carried out are those that have been damaged by worms, and it may be that part of them are young drones in the larval state that the bees are carrying out because the honey-flow has ceased. There is nothing alarming in either case, and the thing to do in order to avoid trouble with worms in the future is to keep your bees strong and of Italian blood.

Perhaps Only the Poor Season.

I have three colonies this season. I had four last season, but lost all but one, and I moved it home about $\frac{1}{2}$ mile. It was in a cracker-box. Last fall I took the top box off and got 75 pounds of honey; in place of the box I put on top one-half of a painted hive I made, and this spring they went into it and made four combs nearly the full length, and worked till the first swarm issued. They then left the top and did nothing since, and the other two swarms seemed to fill the bottom of the hive with comb, but don't work in the top. I uncovered the cracker-box to-day, and I find no honey in the cells nor capt. They seem to be starving and working.

Now what is the matter with them? There is a bad odor. In July I noticed many young bees carried out of the hive not fully formed. I sometimes think they have foul brood. Is there nothing that will kill the disease except removing into new hives? I thought probably they left the top because I lookt at them once or twice a week. I dislike moving them so late. I have lookt the journals over, and read all articles on foul brood. IOWA.

ANSWER.—Very likely there is nothing at all the matter except that the season has been poor and the bees have not gathered enough to fill up with. In the first place, the original colony began working all right in the upper story. Then the two swarms depleted it so much that there were not bees enough to store above, and the work there was stopt. The two swarms have probably been working away the best they could, but the season has been probably poor, as it has also been in most localities, and it is asking too much in a poor season to make three good colonies out of

one. It may be necessary for you to feed in order that there may be enough stores for winter.

The white brood carried out was not from foul brood. Bees don't carry out brood affected with foul brood, but let it decay in the cell. A bad smell does not necessarily come from foul brood, for sometimes a very disagreeable smell will be in a hive for a short time that seems to come from the stores gathered. While there is a possibility that there may be foul brood, there is nothing in the statement you make that may not easily be accounted for without the presence of any disease.

Late Transferring and Uniting.

1. I have kept bees only the past six months, but if I have no honey to show, I have gained in experience, as I have transferred several box-hive colonies and introduced a queen successfully. One of my neighbors intends to bring a number of this season's first swarms for the honey, but will give me the bees if I take the honey away. Is it too late to build up a good colony from them by feeding?

2. Would you give them an Italian queen, or wait until spring?

3. Could I put the two or three colonies together? They will have to be carried two miles, and perhaps the shaking up would keep them from quarreling.

4. How late in the fall could I build up a colony?

CONNECTICUT.

ANSWERS.—1. If the weather is favorable there is probably time yet to accomplish your purpose.

2. It would be better if the united colony could start in at the very beginning next spring with an Italian queen, but there are difficulties in the way. The bees not being on combs yet, it will be hard for you to look over them to find the black queen or queens, and after combs are built it will be pretty late.

3. Unless the colonies are *very* strong, you will succeed better to unite two or three in one, and you are right in thinking the shaking up of the journey would help to prevent quarreling. Being deprived of all combs will also prevent quarreling.

4. That depends upon the character of the season. You may do the work any time in the fall if there is still left two or three weeks of weather warm enough for bees to fly. Of course, the earlier the better, and the bees should have full sheets of foundation.

Arrangement for Wintering Bees.

1. What do you think of my plan for out-door wintering? I have 35 colonies. My plan is to take good No. 2 tongue-and-grooved siding or flooring 16 feet long, and as I keep my bees about 3 inches from the ground, I would shift them a little day by day until I got them in rows of 10 in a row, then take the lumber that I just named—take some 1x2 inch strips and make the back 30 inches high, the roof 30 inches wide, so that I can take the back and top and front down in separate divisions; smooth the earth off a little, and let the hives rest on the earth about 2 inches apart, and leave a space of about 4 inches behind the hives and the back of the shed or box that I put the bees in, and stuff it in tight behind and between the hives with dry oats-straw. Then make a front to the little shed all in one piece, so I can let it down or leave it up, just to suit the weather, but will not put any straw in front of the hives at all, have them face the South, and as the hives sit on little inch thick strips, it leaves the space of 3 inches under the hives to be packed with straw. By using a lath about two feet long the straw can be packed around the hives very solidly and neatly.

It will cost me about \$15.00 to fix them that way. The lumber can be taken down in sections, and put away when not in use. They will last a long time that way, and be a short job to put them up or down.

2. If made that way would the bees get mixt up if they were moved a little at a time the way I spoke of? You see, I would shut the front of the shed when it is real cold, and sometimes in the middle of the day, when it warms up a little, and the snow is real dry, I would close it and the bees would not fly to get stuck and die in the snow. It would be almost the same as a chaff hive, and lots cheaper.

3. Do you think if fixt that way they would breed in the wrong season on account of the sun shining on the fronts of the hives? I would leave the front of the shed or

box, or whatever you call it, open, except in real bitter-cold weather.

I would not pack the bees before Nov. 15. I would get the hives spaced sooner, but would not put the little shed around them until that time. KANKAKEE.

ANSWER.—1. Your plan will probably work well, altho it will be some trouble to move the hives together and then get them back again in spring.

2. There might be some mixing up, but hardly enough to do any harm if the moving is gradual. If one or more days come when the bees do not fly, then there will be no use in moving again till the bees fly.

3. It is not likely that any great harm would come from breeding out of season.

A Queen Lays Two Kinds of Eggs.

There is a dispute between two bee-keepers. The question is: Does a queen lay different kinds of eggs—queen, drone and worker—or does she lay the same kind of an egg in each cell, and the bees do the rest? NEBRASKA.

ANSWER.—A normal queen lays two kinds of eggs, impregnated and unimpregnated. If the egg is impregnated on its passage thru the duct that leads outward, then it will produce a worker. If unimpregnated it produces a drone. An impregnated egg may also produce a queen, if properly fed for that purpose by the nurses. That is according to the Dzierzon theory, which up to the present time is generally accepted among bee-keepers.

A Method of Wintering Bees.

On page 500 is an article by D. H. Metcalf, describing (in part) his method of wintering bees, but I must confess I do not understand his system. Can you tell me how his hives are made, how those storm-doors or entrances are arranged, and in what part of the hive they are located? If his system is a success, as represented, will it not be a boon to the bee-keeping fraternity? Is it not worth investigating, and giving it a trial? If you cannot give a full description of the system, perhaps you can induce the author to do so. UTAH.

ANSWER.—I don't know enough about Mr. Metcalf's plan to reply, and perhaps he will be kind enough to give the desired information. In reply to your question whether his system will not be a boon to the bee-keeping fraternity, I must confess I don't know. First, because I don't know just what his system is, and second, because he goes "contrary to the advice of all experts." Without saying Mr. Metcalf is not eminently successful in wintering, that sounds just a little as if all others of experience are wrong and only Mr. Metcalf is right, and it may be a question whether Mr. Metcalf's success is because of his leaving the beaten path of all bee-keepers of experience, or in spite of it. Of course there is a possibility that all others are wrong and Mr. Metcalf right, in which case he is entitled to all the more credit for blazing a new path.

Size of Hive—Average Surplus, Etc.

1. What size of hive will be about the best for this locality, the 8 or 10 frame dovetailed, or wouldn't it be better to use the 8-frame 1½ story for brood, instead of 10-frame one-story?

2. About what is the average of surplus honey per colony in this (Rice) county, or in this State?

3. Is Minnesota good for producing honey?

4. Can there be used more Ideal supers than one at a time?

5. What super is the best for producing straight sections, and the most of them? MINNESOTA.

ANSWERS.—1. The best size of hive depends much upon the man and the management, as also on locality or pasturage. The matter has been pretty fully discust in this and other bee-papers lately, occupying many pages. As you speak of sections, you probably mean to run for comb honey, in which case the 8-frame hive may suit your purpose, using two stories whenever more than eight frames are needed. But unless you give close attention to the bees, the 10-frame hive will be better, with less danger of starvation in winter. The objection to a 1½-story hive is the two different kinds of frames; otherwise you might like it. Try to find out the

kind of hives used by the most successful bee-keepers in your region, and if you cannot satisfy yourself in this way you can try two different sizes side by side on a small scale, and find which succeeds best in your hands. Indeed, this latter way, altho taking time and trouble, is the more sure way.

2. I have no means of knowing, but perhaps some bee-keeper in your county will give his average in these columns.

3. Some bee-keepers have succeeded well in Minnesota.

4. They may be piled up to any extent.

5. One super will produce as straight sections as another, providing separators are used; and the number of sections does not depend upon the sort of super.



The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Richards, Ohio.

BEEES AND PEAR BLIGHT.

"Hast thou found me, O mine enemy?" The enemy has found us this time, it seems—and has secured a scientific certificate of the fact. Bees actually guilty of carrying the blight with them from infected orchards to healthy ones. Sorry. But what then? Squirting poison on the bloom will not kill the bees promptly enough to prevent it at all. Better squirt at something that needs killing, and do the job at killing time. Perhaps in time even the scientists may reflect that bees do not *very often* visit two orchards the same day. Page 565.

WATERMELON-JUICE FOR WINTER STORES.

Possibly Dr. Miller's reply about watermelon-juice, page 551, may need a little bit of qualification. I have read somewhere about watermelons in Italy being largely fed as a winter supply. If any one has that scheme in mind he should remember that the winters of Italy and our Northern winters are very different affairs. Success there would not necessarily mean success here. Better go slow till American experience in a long, hard winter decides the matter. It's a seductive scheme for lazy folks, to sell all the honey, and then make the bees stock up for winter on late melons, sliced few at a time right where they lie.

STINGLESS OR "COOL-TAIL," WASPS.

Scientific item by Prof. Cook, page 555. No stingless wasps. Thanks. The wasps are a very numerous generation (some of them nocturnal), and most of us did not know for dead sure what to expect of their little tails. Wish he had explained whether the phrase, "in our country," meant that there are some outside, or only that science does not presume to say yet all that is, or isn't, in central Africa and central Asia. And I thirst for more information about male wasps—whether all, many, or only a rare few of them have cool tails.

TAR-MAKING SMOKER-FUEL.

On page 549, we find Dr. Miller's Black-Drop. No one admires it, or even prescribes it; but Mr. Thompson and many others continue to retail it by the drop around their otherwise cleanly premises. Business goes right on, even if you clean the smoker and wash it with tears. Dr. Hasty would prescribe a change of fuel. Some fuels are always daubing things up with fluid tar; some never do anything of the kind, and some seem to be which and t'other, according to weather and the circumstances. Pays to have some fuel in stock that won't make tar.

DEEP FRAMES FOR WINTERING.

Significant that Edwin Bevins finds, page 548, that his colonies on deep frames do not die in winter and leave him frames of that sort to experiment on. Still, this reviewer inclines to say, don't be too fast in deciding whether it is the mere depth of the frame, or the increase size of the brood-chamber, that causes the good results.

GEORGE W. YORK, Editor.



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United States Bee-Keepers' Association.

Organized to advance the pursuit of Apiculture; to promote the interests of bee-keepers; to protect its members; to prevent the adulteration of honey; and to prosecute the dishonest honey-commission men.

Membership Fee—\$1.00 per Annum.

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GEN'L MANAGER AND TREASURER—Eugene Secor, Forest City, Iowa.

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NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound.

The Philadelphia Convention Report is again delayed, we regret to say. The copy did not reach us in time for the usual installment to appear this week, on account of the illness of Secretary Mason. We hope that it will not again be delayed, as it is quite trying to us as well as to our readers.

A Consolation it may be to many a bee-keeper this year, when prices of supplies are advancing, to know that such advances do not directly affect him. He does not need to pay the advanced prices for shipping-cases, nor yet for sections for the next season. All of which consolation comes from the fact that he has had no crop this year, so needs no shipping-cases, and the sections (if he has any on hand) intended for the crop of 1899 are all right for the crop of 1900.

Cleaning Up Unfinisht Sections.—This is a good time of the year to recall the views of experience as to sections having too little honey in them to be put on the market. A large number are agreed that such sections, if properly cleaned out, are valuable for use the following season. But there is no means by which the bee-keeper can properly clean them, unless he has it done by the bees. If they are extracted, and the least particle of honey remains in them till next season, that least particle will granulate, and if the bees store honey in it subsequently it will be a spoilt section. So it is the practice of some to let the bees do all the work of emptying and cleaning without at all resorting to the use of the extractor. The trouble is that the average

beginner will have not only the whole of the honey emptied out, but the larger part of the comb as well.

Two quite diverse methods of avoiding this tearing of the combs by the bees have been advanced. Dr. Miller says: "Put your supers of sections in piles where the bees can rob them, but give them so small an entrance that only one bee at a time can enter." The late B. Taylor gave nearly opposite advice, saying: "Put your supers of sections fully exposed, so the bees can all get at them from all sides." Both ways are right used under the right conditions.

Suppose you have an apiary of 50 colonies. If you have a single super of unfinisht sections to offer the bees for a job of polishing, the Miller plan will succeed perfectly, while the Taylor plan will leave most of the comb chewed up fine. If you have 50, or even 20, such supers to offer the 50 colonies, either plan will succeed, but the Taylor plan will make a much quicker job, and in some cases that is quite important, as a closing down of the temperature may prevent work on future days. So if you have many sections to be cleaned out, give them all the publicity possible, but if less than perhaps ten sections to a colony, give entrance to only one bee at a time. In any case, get the cleaning up done by the bees as early as possible.

Illinois State Fair Apiarian Exhibit.—It was our pleasure and privilege again to attend the State Fair of Illinois, held at Springfield the last week in September. Of course, we were most interested in the exhibits made by bee-keepers, and doubly so as it was our duty to act as judge in awarding the \$268 in cash premiums offered in the apiarian department.

Before giving a list of the winners of the premiums, we wish to congratulate the bee-keepers of Illinois upon two things. First, their good fortune in having so able and interested a man as Mr. H. J. Cater as superintendent of the department; and, secondly, we feel that they deserve special commendation upon the large and attractive exhibit put up this year. We believe it exceeded in extent and general display anything that has hitherto been attempted by the bee-keeping industry of the State.

The following is the premium list, with those who secured them, and the several individual amounts:

Display of comb honey—1st premium, J. Q. Smith & Son, of Logan County, \$20; 2nd, W. Z. Hutchinson, of Michigan, \$15; 3rd, Jas. A. Stone & Son, of Sangamon County, \$10.

Collection of labeled cases containing 12 or more pounds of white honey from different flowers—1st, Chas. Becker, of Sangamon County, \$8; 2nd, J. Q. Smith & Son, \$5; 3rd, W. Z. Hutchinson, \$3.

Collection of labeled cases containing 12 or more pounds of amber or dark honey from different flowers—1st, J. Q. Smith & Son, \$8; 2nd, W. Z. Hutchinson, \$5; 3rd, Geo. Poindexter, of DeWitt County, \$3.

Case of white clover comb honey, 12 to 24 pounds—1st, W. Z. Hutchinson, \$4; 2nd, Jas. A. Stone & Son, \$3; 3rd, J. Q. Smith & Son, \$2.

Case basswood comb honey, 12 to 24 pounds—1st, Chas. Becker, \$4; 2nd, W. Z. Hutchinson, \$3. (No 3rd entry here.)

Case amber comb honey, 12 to 24 pounds—1st, J. Q. Smith & Son, \$4; 2nd, W. Z. Hutchinson, \$3; 3rd, Chas. Becker, \$2.

Display of extracted honey—1st, J. Q. Smith & Son, \$20; 2nd, Chas. Becker, \$15; 3rd, Jas. A. Stone & Son, \$10.

Display of honey extracted on the ground—1st, J. Q. Smith & Son, \$5; 2nd, Chas. Becker, \$3; 3rd, W. Z. Hutchinson, \$2.

Frame of comb honey for extracting—1st, Jas. A. Stone & Son, \$5; 2nd, J. Q. Smith & Son, \$3; 3rd, Chas. Becker, \$2.

Display of candied honey—1st, Jas. A. Stone & Son, \$20; 2nd, W. Z. Hutchinson, \$15; 3rd, J. Q. Smith & Son, \$10.

Display of beeswax—1st, Jas. A. Stone & Son, \$12; 2nd, J. Q. Smith & Son, \$8; 3rd, Chas. Becker, \$4.

One-frame observatory hive of dark Italian bees—1st,

Geo. Poindexter, \$4; 2nd, Mr. Shank, of Adams County, \$3; 3rd, J. Q. Smith & Son, \$2.

One-frame observatory hive of golden Italian bees—1st, J. Q. Smith & Son, \$4; 2nd, Geo. Poindexter, \$3; 3rd, Mr. Shank, \$2.

One-frame observatory hive of Carniolan bees—J. Q. Smith & Son, \$4; 2nd, Geo. Poindexter, \$3; 3rd, Chas. Becker, \$2.

Honey-vinegar, one-half gallon, with recipe for making—1st, W. Z. Hutchinson, \$4; 2nd, Jas. A. Stone & Son, \$3; 3rd, Geo. Poindexter, \$2.

We feel that special mention should be made of the exhibit put up by J. Q. Smith & Son. In space occupied, in quality and quantity, and in general attractiveness we have rarely seen an exhibit of a similar nature to equal it. It was a pleasure to the judge, when he had finished his work, to find that this exhibit had deservedly led in the race for the premiums offered.

The other apiarian exhibits were good, and were a credit to those who went to the effort and expense to prepare and place them. All must have served as a silent but effective educator to those who knew little of the extent and importance of the industry of bee-keeping in Illinois.

We hope that next year even more of the bee-keepers in this State will be found among the exhibitors, and thus show their appreciation of the efforts of Mr. Cater and the Fair managers to give apiculture an opportunity to place its products before the people in a proper manner.

Supt. Cater hopes, another year, to have the apiarian exhibit on the first floor of the Dome Building instead of the second floor. He wants the dairy and apiary together, which is quite proper in "a land flowing with milk and honey"—only in this case it would be *butter* and honey. The corner of the building now occupied by the Culinary department would be a splendid location for the Apiary department, as the light all around it is all that could be desired. It is to be hoped that Mr. Cater will succeed in securing it for the bee-keepers. The *best* place is none too good for them, you know!

A Gala German Honey-Market.—Mr. F. L. Thompson tells, in the Bee-Keepers' Review, something about a unique way they have of marketing honey in Germany. Here is his report of a certain affair:

On Aug. 29, 1897, thru the efforts of the Kaerntner Association, a honey-market was held in the city of Friesach, in Kaernten. For weeks before, the occasion was advertised in the local newspapers of the district. The city was decorated on that day, and about 500 strangers, outside of the townspeople, came to be entertained. The market was held in the afternoon, in ten large tents, decorated with branches of fir, containing long tables spread with white cloth on which the honey was arranged, mostly in glass. In some of the tents exhibitions were given by 16 boys and girls of the public school, in uncapping and extracting honey, making foundation, and nailing frames. The costs were reimbursed by the sale of souvenirs, such as scarf-pins representing bees, etc., by young women in country costumes. The sale of honey was a success, altho the prices were pretty stiff in comparison with the customary ones, and many orders were taken to be filled later.

The day was closed by a bee-keeper's convention, at which it was resolved to hold another market the next year at another town.

Special Notice: or Our Subscribers.—Returning a copy of the Bee Journal to this office will not secure its discontinuance. If you want your copy stopt, be courteous enough to write us, enclosing any back dues, and request that it be discontinued.

Foreign subscribers will please remember that all the offers we make at any time are only for people living in the United States, Canada and Mexico. To all other countries postage is extra not only on the American Bee Journal itself, but on nearly everything else. It will thus easily be

seen by any thinking person that any prices we quote are not for people living in foreign countries.

Again, when you wish us to change your Bee Journal address on our list, don't fail to write us both your new and old addresses. Otherwise we can't find your name so as to change the address.



DR. A. B. MASON, Secretary of the United States Bee-Keepers' Association, writing us Oct. 5, said:

FRIEND YORK:—We got home late last Saturday night, and I with a slight chill nearly all the way from Buffalo, and have had quite a sufficiency at frequent intervals since. In spite of the doctor, I sit up a few minutes and then lie down for a few hours, perhaps, more or less, but am a little better to-day.

I'm as sorry as you about delayed report, and would not have had it begun so soon if I had supposed we should be kept from home so long, but it was impossible to do any better. I enclose what I have, and am expecting more every day, and I'll keep you supplied hereafter.

When we got home we found our daughter Flora had broken her right arm at the time Mr. Abbott was reading his paper at the convention, but the children hadn't said a word to us about it until we got home. It was well set, and is doing well.

Well, I must lie down again, but have a pile of unanswered mail on hand. If Flora had broken the left instead of the right arm I would not have to write.

Yours truly, A. B. MASON.

We were very sorry indeed to hear of Dr. Mason's illness and Miss Flora's serious accident. The Doctor's many friends will regret to learn of his afflictions, and unite with us in the hope that both he and his daughter may speedily recover, and again be as strong as ever.

THE ILLINOIS STOCK-BREEDERS' ASSOCIATION will hold their annual meeting in the State House at Springfield, Nov. 14, 15 and 16. This includes the associations devoted to breeding horses, cattle, swine and sheep—four of them. A splendid program has been issued, a copy of which may be had by writing Secretary Fred H. Rankin, Athens, Ill. We notice that Jas. A. Stone, Secretary of the Illinois State Bee-Keepers' Association, is down to discuss "Sheep-Breeding." Tho quite a sheepman, our good friend doesn't look a bit sheepish!

Low rates on all the railroads to Springfield will be in force at the time mentioned. Address Secretary Rankin for any further information you may desire.

MR. JOHN W. LYELL, of Washoe Co., Nev., wrote us as follows, Sept. 25:

"I cannot well do without the American Bee Journal. It has come to be too regular an object of interest on our center table to miss one now. The honey crop will be below a three-fourths crop as far as heard from, but prices are unusually low, according to quantity. Quality is excellent."

THE PETTIT PICTURES shown in this number of the American Bee Journal are the property of the Farmer's Advocate, published at London, Ont., Canada, one of the best agricultural periodicals on this continent. They very kindly loaned us the two engravings.

MR. E. R. JONES, president of the Central Texas Bee-Keepers' Association, writing us Sept. 29, said: "Dry, dry, DRY! Many bees are actually starving to death."

The Premiums offered on page 655 are well worth working for. Look at them.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	60c	\$1.00	\$2.25	\$4.00
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White Clover	80c	1.40	3.00	5.00
Alfalfa Clover	60c	1.20	2.75	5.00
Crimson Clover	55c	.90	2.00	3.50

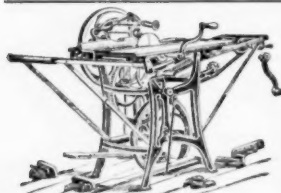
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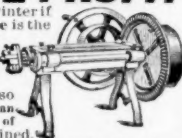
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BEEDOM BOILED DOWN.

Doolittle's Cell-Cups, according to an item in Gleanings in Bee-Culture, will probably be put on the list of bee-keepers' supplies in the near future.

Why No Honey from Clover.—D. D. Hammond says in Gleanings in Bee-Culture that no matter how abundant is the bloom on white clover of the first season's growth, it will yield no nectar till the growth of the second year.

Still a Different Hive is Wanted by R. S. Chapin, who says in Gleanings in Bee-Culture that he doesn't want a Draper "barn" with its 10 frames, but he would like a hive with 8 frames of the deeper sort. This would give him all the advantages of the ordinary 8-frame hive, which he likes, aside from the objection that it contains a scant supply of stores for winter.

Rambler's Improved Honey-Strainer is described in Gleanings in Bee-Culture. Simply cheese-cloth; but cheese-cloth soon becomes clogged. So he provides against this by having cheese-cloth 3 yards long and 1/2 yard wide, each end attach to a roller, somewhat after the fashion of a window-shade on a roller. When the part in use becomes clogged, it is rolled up, and a fresh part rolled off from the other roller, and this is continued till the whole 3 yards has been used, when the whole piece can be washed.

Burying Bees in Winter has been little mentioned of late years, but Lebrecht Wolff speaks of it in highest terms in Deutsche illustrierte Bztg. No disturbance thru frequent changes of temperature, no seductive sunbeam entices the bees forth to their ruin, no disturbance from rats, mice, etc., no winter's cold severe enough to injure them; quietly they sleep away their winter's rest, leaving the bee-keeper free from all care regarding them. The view formerly held, that it is desirable for bees to have a flight in winter is now generally given up, says Herr Wolff, a cleansing flight in December, January, or the first half of February being highly detrimental to the bees.

The slaughter of bees by brimstone is the heading of an article in a German bee-journal in which the writer deplores the continuance of the old custom in his land by which thousands of colonies are sacrificed, and proposes to put a stop to it by buying up all colonies condemned to the sulphur pit. Not being able financially to compass the whole field, he makes an appeal to his bee-keeping friends to come to his aid by sending him orders for colonies. One is somewhat puzzled to know whether this is a bit of shrewd advertising, but against it is the high character of the journal in which the article appears—Deutsche illustrierte Bienenzeitung—as well as the fact that he claims to ask only the price he himself pays, which may easily be, since he asks only \$2.50 for a colony with 16 to 25 pounds of honey, guaranteeing safe arrival.

Markets Bare of Honey, and Why.—I have already spoken of the markets generally being bare of honey, and that the cause was due to the fact that buyers were not offering enough. Altho I have spoken of this in this issue, I believe the matter needs special emphasis again.

Bee-keepers should not be in haste to sell their honey just yet. Honey has advanced very materially in California and the West

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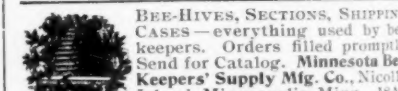
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475 Pages.

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THE A. I. ROOT CO.,
MEDINA, OHIO.

generally. Extracted that sold in California for $3\frac{1}{2}$ cents is now selling for 7. According to the same ratio, comb honey that sold two years ago at 10 cents in our markets should now bring 20; and yet 13 to 15 is about the top notch of the Eastern market. If the buyer wants honey it appears to me he will have to offer more than these figures. There is evidently much honey in Colorado, but it will never find its way East until our markets advance more than they have done.

It should be understood that commission quotations usually stand higher than cash offers, for the reason that from the former must be deducted freight and 10 percent commission; but in whichever way the offer is made, the honey-dealers should understand that they will have to advance some before they will have much honey to offer. —Editorial in Gleanings in Bee-Culture.

The Maroon-Yellow Question, and Pure Italians.—To the question asked Mr. Doolittle by Dr. Miller, why it was that Mr. Doolittle in all these years never before said that Italians were maroon and not yellow, Mr. D. starts to make reply in Gleanings in Bee-Culture, but before reaching the question proper seems to become switcht off onto a side-track, and never returns to the main line. He refers to the discussion in the early seventies about the purity of Italians, when he says it was fully proven that the Italians are not a pure race. Then the matter died down, says Mr. Doolittle, who continues:

"But for the past 5 years this matter of 'markings' has again forged to the front, and the low rumblings of dissatisfaction first heard have almost reached the fury of a storm, and parties are being denounced for lying about the markings, purity and color of their bees, and thus an unimportant matter has become an important one."

Editor Root replies that they sell \$2,000 to \$3,000 worth of queens every season, this year more than ever, and if any complaint has come in to them with regard to the color matter he does not remember to have seen it. He says he agrees with Mr. Doolittle that the only way to determine the purity of Italians is by their markings, and that "placing bees on a window, before the light, is an extreme and perhaps unreliable test for the determination of the purity of the bees in question."



Well Satisfied with Results.

I bought one colony of bees last fall; they wintered well, and in the spring I put them out and kept the cold winds from them, and also protected them from the hot rays of the sun. They gave me two good swarms in June, and as I did not want them to swarm again I took 10 pounds of box-honey from the super the first of July, so as to give them room. Sept. 15 I took 30 pounds more of box-honey from the old colony, and 30 from the first swarm, none from the second. This is my first experience. I am very well satisfied. As there are no bees kept within several miles of me, and there is plenty of clovers, basswood and golden-rod, I hope to keep quite a number of colonies and do well. I followed the Bee Journal's advice. Wm. Brown.

Herkimer Co., N. Y., Sept. 23.

One of the Numerous Asters.

Our bees are rolling in nectar from wild aster, whenever it is warm enough for them to work on it. Our first frost came about a week ago and still it does not seem to have any effect on the aster, altho we have had two or three frosts since. I send a bunch of asters, showing its stalk and blooms, which I plucked from a swamp where

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consisting of 235 acres, as good a farm as there is in Lake Co., Ill., located only 26 miles north of the Chicago court-house, on the old Chicago and Milwaukee stage-road (or Milwaukee Ave. now), and $1\frac{1}{2}$ miles from Prairie View on the Wisconsin Central railroad. The beautiful Desplaines river runs thru the pasture, besides the timber land. Also 19 acres of good timber one mile northeast of Half Day, making 254 acres in all.

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The best part of the Philadelphia Convention Report will appear in those 13 numbers.

GEORGE W. YORK & CO., 118 Michigan St., Chicago, Ill.

the frost was severest. Very little pollen seems to be gathered from it. It grows two and three feet high, and seems to grow as well on old, wornout, rocky fields as anywhere. I consider it a very good honey-plant, altho its honey does not rank with white clover. I would like a report on it.

It seems as if I could hardly wait for the time for the "Old Reliable" to come, especially since the beginning of the report of the Philadelphia convention. Its brilliant pages seem like a new hope, and to thrill the whole body, which only a bee-keeper can experience.

J. WILEY MOUNTAIN.

Anderson Co., Ky., Oct. 11.

[The asters are so numerous, and the flowers of so many are so nearly alike that it is somewhat difficult to determine the variety unless one is pretty well up in that line. Sometimes leaves are the only distinguishing features of a dried specimen, and should always accompany the plant when possible.]

I believe the plant to be *Aster pinicens*. The flower is quite common in low thickets and swamps, and in common with others of its kind furnishes abundance of good, rich nectar for fall storage.—C. L. WALTON

Bees are Like People.

I have concluded that bees are like people, when some will do well others will do nothing. I have colonies that did not give me a pound of surplus, and another right beside it that gave me 28—both good, heavy colonies. What's the trouble? A change in administration is what is wanted, and I am putting in Italian queens in those colonies that did nothing.

The season has been bad here, dry and hot. When I read about those large honey records it seems queer when I can only get 25 pounds, but I get 25 cents for every pound.

H. A. FISH.

Plymouth Co., Mass., Oct. 3.

A Brief Report.

Poor season. Bees to feed. Not much honey. Not much money. Looking for a good season always to be better next year. Looking for a horseshoe and don't find it. Like Petroleum V. Nasby's man—do better after to-morrow.

J. V. B. HERRICK.

Hennepin Co., Minn., Sept. 28.

Bees Have Done Nicely.

We are having it rich this year. Every one's bees are doing nicely. I will give you a little idea how my bees are doing.

Honey taken off, Sept. 21, colony No. 9, 16 Langstroth frames, and one super on, all full, ready to be capt over; swarm from colony No. 1, 26 Langstroth frames; No. 6, 15 frames; No. 5, 20 frames; No. 1, 29 frames; and No. 2, 20 frames.

A. E. Smith has bought Mrs. McGarvis' bees; she had 40 colonies, and he gave her



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300 pounds in sections, put up in shipping-cases, and all the honey that is ready to take off. This will make him 82 colonies. He said if we had two weeks more of nice weather we would get one more super full. Posey Co., Ind., Sept. 25. IRA NYE.

Counted on Too Much.

I was counting on 10,000 to 12,000 pounds of honey, but it did not all rain down, altho I had the platter clean and the right side up; but I am thankful for what I did get. Lots of honey-dew is coming in; it is bright and of pleasant flavor. I shall feed a little honey and sugar and risk it for winter stores. The bees are breeding like summer time. This I regret, but I cannot help it. S. T. PETTIT.
Elgin Co., Ont., Canada, Sept. 21.

One of the Clovers.

I send a few plants of some kind of clover, as I believe. Kindly say what it is, and whether it is of value as a honey-plant. Pierce Co., Wash. G. C. BRITTON.

Prof. C. L. Walton, 2863 N. Ashland Ave., Chicago, Ill., botanist for the American Bee Journal, replies as follows:

The plant is a clover, *Trifolium procumbens*, but is not as good a honey-plant as some other clovers, such as the white, sweet and Alsike. While not so profitable to cultivate as other honey-plants, yet when growing wild it may afford good forage when other supply fails.—C. L. WALTON.

Liberal Amount of Fall Honey.

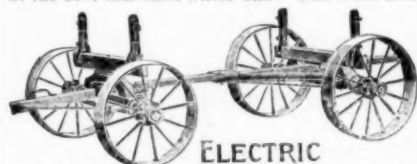
Since my last report I have secured quite a liberal amount of fall honey, mostly amber, from golden-rod and Spanish-needle, the marshes here being yellow with the latter during the latter part of August and first few days in September. The hives also are unusually heavy with stores, and the honey, I think, is of the best quality for wintering purposes. B. T. DAVENPORT.
Waushara Co., Wis., Sept. 23.

Hard Year for Vermont Bee-Keepers

This has been a hard year for Vermont bee-keepers. I started in the spring with 55 colonies, and now have 90. I secured only 1,500 pounds of honey, mostly extracted. Comb honey brings 20 cents as quick as one dollar will bring another. Bee-keepers who last year had 10 to 15 tons of honey have less than one now, and have to

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feed tons of sugar to winter the bees; and bees are not in good shape, the drouth having kept them from breeding, and so they are light in bees. M. F. CRAM.
Orange Co., Vt., Sept. 25.

Too Dry for Honey.

Bees have stored no honey here since July 15, on account of its being too dry. G. W. FAGAN.
Arkansas Co., Ark., Sept. 20.

No Surplus and Must Feed.

I have taken no surplus this year, but have to feed a few of my colonies. Last year I had a surplus of 400 pounds from 5 colonies. This year I have 10 colonies and have to feed some. This is quite a difference. GUSTAVUS KOLLS.
Hall Co., Nebr., Sept. 25.

Bur-Marigold.

I send a specimen of plant that grows along the lake shore and swampy places, which I wish to have classified and also named. The bees work on it faithfully. CHAS. LINDBERG.
Meeker Co., Minn., Sept. 28.

[The specimen is *Bidens chrysanthemoides*, a rather formidable name for such a modest flower. The common name is Bur-Marigold, and belongs to the great composite family. Prof. Cook says it is replete with precious nectar and makes the apiarist jubilant as he watches the bees flood the hives with the rich and precious honey.—(Bee Keeper's Guide)—C. L. WALTON.]

Don't Worry About Salaries.

What salaries are paid in different business callings is a question often asked by young men, and one which seems to enter into their deliberations as a qualifying factor as to whether they shall enter certain trades or professions," writes Edward Bok, in the September Ladies' Home Journal. "I never could quite see the point of this, nor the reason for it. What are the salaries which are paid to others, to you or to me? They signify nothing. If the highest salary paid to the foremost man in a certain profession is \$10,000 a year, what does it prove or signify? There is no obstacle to some one's else going into that same profession and earning \$25,000. The first step in going into business is to find out not which special line is most profitable, but which line you are most interested in and

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Convention Notices.

Connecticut.—The Connecticut Bee-Keepers' Association will meet at the Capitol at Hartford, Wednesday, Nov. 8, 1899, at 10:30 a.m. Waterbury, Conn. Mrs. W. C. RILEY, Sec.

Illinois.—The annual meeting of the Northern Illinois Bee-Keepers' Association will be held at the Court House in Rockford, Ill., on Tuesday and Wednesday, Oct. 17 and 18, 1899. All are cordially invited. B. KENNEDY, Sec. New Milford, Ill.

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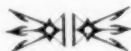
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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Sept. 20.—Fancy white comb honey brings 15c; No. 1, 13@14c; ambers, 10@12c; dark, 9@10c. Extracted, white, in cans, 7½@8c; in barrels, 7@7½c; amber, 6½@7c. Beeswax, 26c.

The receipts are increasing and sales are becoming more frequent. Shipments are coming to hand in good order, and when properly prepared will do so until we get zero weather, after which it is liable to crack, and break away from the frames.

R. A. BURNETT & Co. □

KANSAS CITY, Sept. 14.—The supply of comb honey is very light. Scarcely any extracted on the market. We quote fancy 1-pound comb: 14@15c; No. 1, 13@14c; No. 1 amber, 12@13c. Extracted, white, 7c; amber, 5@6c; dark, 4@5c. Beeswax, 22@25c.

C. C. CLEMONS & Co.

NEW YORK, Sept. 20.—Fancy white, 15c; No. 1, white, 13@14c; fancy amber, 11@12c; No. 1, amber, 10@11c; buckwheat, 9@10c. Beeswax dull at 25@26c.

Demand good for all kinds of comb honey, and ready sale. Extracted in good demand also, excepting buckwheat, at unchanged prices.

HILDKRETH & SEGELKEN.

SAN FRANCISCO, Sept. 27.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@7¾c; light amber, 6½@7c. Beeswax, 26@27c.

Two shipments of extracted have gone forward to Europe since last issue, the ship Springburn carrying as part cargo 360 cases for London, and the ship Aristomene taking 100 cases for Liverpool. Market shows the same healthy tone as previously noted, with stocks of all descriptions of small volume.

ALBANY, Sept. 26.—We quote: Fancy white comb, 15c; No. 1 white, 13@14c; mixt, 11@13c; buckwheat, 10@11c. Extracted, white, 8@9c; mixt, 6½@7c; dark, 6. Beeswax, 26@28c.

MACDOUGAL & Co.

Successors to Chas. McCulloch & Co.

BOSTON, Sept. 21.—Fancy white comb, 1-pound sections, 16c; A No. 1, 14@15c; No. 1, 13@13½c; No. 2, 11@12c. White amber extracted, 8@8½c. Beeswax, 27c.

New comb honey is coming in very slowly, showing a general shortage all over the country.

BLAKE, SCOTT & LEE.

BUFFALO, Sept. 29.—There are virtually no arrivals of strictly fancy white comb honey. The very little arriving is poor, and the best of it brings 14 cents. We believe extra fancy would bring 15@16 cents, and any grade will sell well here. If receipts do not increase we may reasonably look for possibly higher prices. There is a very strong demand, quickly taking the few arrivals.

BATTERSON & Co.

OMAHA, Aug. 16.—Still very little doing and receipts so light that a market price has really not been established. Little lots of choice new comb are still going at 14@15c, but a good many dealers will not touch it at these prices, and in order to place larger quantities at this time a considerably lower figure would have to be made. In the course of another month, when the weather is cooler and the taste for fruits more fully satisfied, the demand for honey will be more general and a more reliable market can be quoted. Extracted is slow sale at 7@7½c.

PEYCKE BROS.

DETROIT, Sept. 11.—Honey-producers accustomed to selling in Detroit have hard work to satisfy local trade. Very little honey in market. White comb, 14@15c; dark, 12@13c. White extracted, 7½@8c. No dark wanted. Beeswax, 23@25c.

M. H. HUNT & SON.

WANTED.—Comb and extracted honey; state price, kind, and quantity.

R. A. BURNETT & CO.,

33A131 163 So. Water St., Chicago, Ill.

WANTED.—Fancy white comb honey in no-drip shipping-cases. State price, kind and quantity.

C. H. W. WEBER,

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We will buy it, no matter where you are. Address, giving description and price.

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which does away with all unneces-
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Send for special prices on quantity
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Clover 9c
Full barrels (600 lbs.) Pure Amber
Honey 7¾c

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Because in 22 years there have not been any
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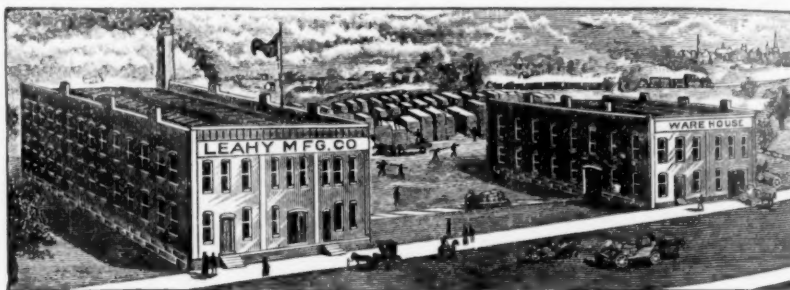
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If you use these, send for a sample before buying.

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